

# PATENT SPECIFICATION

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## DRAWINGS ATTACHED

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## (54) IMPROVEMENTS IN OR RELATING TO THE MANUFACTURE OF MOTOR VEHICLE REAR-VIEW MIRRORS

(71) We, DESMO LIMITED, a British Company of 45 College Road, Perry Barr, Birmingham 22b, do hereby declare the invention for which we pray that a Patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:

This invention relates to a method of manufacturing, by moulding, a casing of a mirror head assembly of a rear-view vehicle driving mirror. Throughout this specification the terms front and forwards will be used in reference to the side of the casing from which the reflective surface of a mirror glass assembled in the casing can be seen, and the terms rear and rearwards will be used in reference to the other side of the casing. The casing is of the kind which has a rear wall and a side wall or side walls extending substantially continuously around and projecting from the marginal edge of the rear wall and which is adapted to carry a mirror glass within the side wall or side walls and disposed with its front face adjacent the front edge or edges thereof in which position the mirror glass is retained by a lip or lips integral with or attached to the side wall or side walls and engageable with the marginal edge of the front face of the mirror glass the rear face of which is supported away from the rear wall of the casing. Such a casing will hereinafter be referred to as being a casing "of the kind described".

The present invention consists in a method of manufacturing, by moulding, a casing of the kind described wherein there are used moulding dies comprising one or more parts defining a recess capable of moulding integrally with the casing a support formation which projects from the inner surface of the casing and which supports the rear face of the mirror glass away from the rear wall of the casing, the one or more parts being replaceable by another part

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or other parts defining a recess capable of moulding a different support formation, the two support formations being distinguished from one another by the difference in the distance from the rear wall at which each of them contacts the rear face of each respective mirror glass.

There may only be one support formation particularly in one construction in which the support formation is in the form of a continuous inwardly directed flange or shoulder projecting from the side wall or walls of the casing. In most constructions, however, there are several support formations the recesses forming which or some of which may be provided in one replaceable part of the moulding dies. The support formations may project from the internal surface of the side walls and be in the form of pips or buttress-like formations.

The support formations may project from the rear wall of the casing and may be in the form of spigots projecting normally or substantially normally from the rear wall. Preferably, however, the formations are in the form of ridges which may extend right across the rear wall to form webs being joined at their ends to the side wall or walls. Elongated support formations give strength to the casing and this is of particular significance in casings of elongated form wherein the webs or ridges extend across the casing transversely with respect to the longitudinal axis of the casing. Such constructions are of great value where the casings are to be made from plastics materials.

The mirror glasses to be carried in casings manufactured in accordance with the invention may be of various cross-sections. They may be of constant thickness and be flat or curved, or they may be of the prismoidal type. Casings of the type having support formations in the form of webs may each have the webs so shaped as to be in contact

with the rear face of the mirror glass over the length of the webs or contact may occur only at such portions of the length as is necessary to ensure that the mirror glass is correctly supported away from the rear wall of the casing.

An embodiment of the invention will now be described by way of example only, with reference to the accompanying drawings in which:—

Figure 1 is a front elevation of a casing of the kind described as manufactured in accordance with the invention;

Figure 2 is a sectional view on the line 2—2 of Figure 1;

Figure 3 is a sectional view on the line 3—3 of Figure 1;

Figure 4 is a sectional view similar to that of Figure 3 but of a casing having different support formations;

Figure 5 is a sectional view of a rim member;

Figure 6 is a scrap-sectional view of part of a moulding die used for manufacturing casings in accordance with the invention;

Figure 7 is a part sectional view on line 7—7 of Figure 6; and

Figure 8 is a sectional view similar to that shown in Figure 7 but of a moulding die capable of moulding a casing having different support formations.

With reference to the drawings a casing is shown in Figures 1, 2 and 3 having a rear wall 10 and a side wall 11 extending continuously around and projecting from the marginal edge of the rear wall 10. The rear wall 10 of the casing is formed with a dome shaped protrusion 12 by means of which it is adapted to be adjustably supported at the end of a support arm (not shown). The casing is formed with support formations in the form of webs 13 extending across the rear wall 10 transversely to the longitudinal axis of the casing. The webs 13 are joined at each end to the side wall 11 of the casing and thus strengthen the casing. The distance between points spaced along the length of each web and a plane containing the front edge of the side wall 11 decrease uniformly across the casing so that the casing is capable of receiving a mirror glass (not shown) of the prismoidal type with its front face adjacent the front edge of the side wall 11. The mirror glass when assembled in the casing is retained by means of a rim member 14, as shown in Figure 5 which is secured to the casing by, for example, an adhesive and has an inwardly directed continuous flange forming a lip.

Figure 4 illustrates a casing similar to that described above but having support formations of different shape in that the distance between points spaced along its length and a plane containing the front edge of the side wall 11 is constant so that the casing

is capable of receiving and supporting a mirror glass (not shown) of constant thickness. When assembled in the casing the mirror glass is retained by means of a rim member 14.

Both of the casings described above are manufactured in a mould having replaceable parts which form the webs 13. Figures 6 and 7 show a portion of the die 15 which moulds the inside surface of the casing. A part 16 formed with recesses 17 by which the webs 13 are formed is secured against a wall of the die 15 by releasable securing means 18. The part 16 is located in position by locating pins 19 engaging holes in the part 16. When the securing means is released the part 16 can be removed and replaced by another part 16' having different recesses. In Figures 6 and 7 the die having part 16 forms the casing shown in Figures 1, 2 and 3, but Figure 8 shows the die fitted with the part 16' used in the manufacture of the casing shown in Figure 4.

#### WHAT WE CLAIM IS:—

1. A method of manufacturing, by moulding, a casing of the kind described wherein there are used moulding dies comprising one or more parts defining a recess capable of moulding integrally with the casing a support formation which projects from the inner surface of the casing and which supports the rear face of the mirror glass away from the rear wall of the casing, the one or more parts being replaceable by another part or other parts defining a recess capable of moulding a different support formation, the two support formations being distinguished from one another by the difference in the distance from the rear wall at which each of them contacts the rear face of each respective mirror glass.

2. A method of manufacturing, according to Claim 1 wherein the support formation projects from the rear wall of the casing.

3. A method of manufacturing according to Claim 2 wherein the support formation is in the form of a ridge extending along the rear wall of the casing.

4. A method of manufacturing according to Claim 3 wherein the ridge extends right across the rear wall being joined at each of its ends to the adjacent side wall of the casing, thus forming a web.

5. A method of manufacturing according to either Claim 3 or Claim 4 wherein the casing is of elongated form and the ridge extends across the casing transversely with respect to the longitudinal axis of the casing.

6. A method of manufacturing according to any one of the preceding claims wherein the casing has two or more support formations or a support formation which has

length wherein the distance between the support formations or spaced points along its length and a plane containing the front edge or edges of the side wall or walls of the casing is constant so that the casing is capable of receiving a mirror of constant thickness.

7. A method of manufacturing according to any one of claims 1 to 5 wherein the casing has two or more support formations or a support formation which has length wherein the distance between the support formations or spaced points along its length and a plane containing the front edge or edges of the side wall or walls of the casing decreases uniformly across the casing so that the casing is adapted to receive a mirror of the prismatic type.

8. Method of manufacturing substantially as described herein.

9. A casing of the kind described and manufactured in accordance with the method of manufacturing set forth in any one of the preceding claims.

10. A casing of the kind described, manufactured in accordance with the method of manufacturing set forth in any one of the preceding claims 1 to 8, and sub-

stantially as described herein with reference to and as illustrated by Figures 1, 2 and 3 of the accompanying drawings.

11. A casing of the kind described, manufactured in accordance with the method of manufacturing set forth in any one of the preceding claims 1 to 8, and substantially as described herein with reference to and as illustrated by Figure 4 of the accompanying drawings.

12. A die including interchangeable parts, capable of use in the method of manufacturing set forth in any one of the preceding claims 1 to 8, and substantially as described herein with reference to and as illustrated by Figures 1, 2 and 3 of the accompanying drawings.

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